

You will need an EarthComm book turned to pg. U-70.

IWBAT understand the characteristics of high-gradient and low-gradient streams through shared reading, class discussion, and written responses to questions. I will use vocabulary such as gradient, discharge, headwaters, meander, and river.

Water Resources Unit

Activity I p. U-70

Think About It

Still
greengrass
Animals

fast flow
rocky
no animals

Digging Deeper

- High gradient streams have high velocities and can move boulders or large objects. They are generally small and shallow and have not collected much water. They also erode valleys quickly.
- Most of the sediment is carried to the bottom of the valley. Small flood plains (for farming) because of the steep valley sides.
- Stream discharge is how much water passes a point along the river in a unit of time. High gradient streams tend to have low stream discharge.
- Increased rainfall or snowmelt can cause stream discharge to increase. When the precipitation stops, the levels return to normal. Stream discharge increases seasonally. This can occasionally result in major floods. Stream velocity and discharge vary a lot over time.

IWBAT understand the characteristics of high-gradient and low-gradient streams through shared reading, class discussion, and written responses to questions.

Water Resources Unit

Activity II p. U-81

Think About It

people lose houses + businesses

Lives in danger

excess water (storm?)

supposed to be in a stream, but it over flowed

affects the whole community

Digging Deeper

- High gradient streams erode downward and low gradient streams erode sideways and downward making wide valleys.
- The width of the river valleys is evidence that larger discharge rivers erode the valleys they occupy.
- Erosion on the outside of a river bend (meander bend) causes the river to widen the valley, while deposition on the inside of the bend moves the stream channel farther from its original path. The floodplain is built of the sediments that the river has deposited.
- Each flood deposits sediment on the inner side of the meander no more than a meter or so high.

IWBAT understand the characteristics of high-gradient and low-gradient streams through shared reading, class discussion, and written responses to questions.

Water Resources Unit

Digging Deeper

- Meander bends grow wider, but its neck becomes narrow. Floods may cut across the neck creating a more direct route which is shorter and steeper than the meander route. An abandoned meander bend may become an oxbow lake.
- Water can enter a stream from reservoirs, ground water, snowmelt, and rainfall. Water can be removed from a stream through evaporation, irrigation, groundwater, and municipal water supplies.
- The flow of water in streams is connected to the groundwater system. Rainfall can run off into the streams or soak into the ground to join the aquifer. An aquifer is the main source of water in rivers during periods of drought. This flow of water is called a base flow. Water flows more slowly through rock than over the Earth's surface.
- Low gradient stream flows change with the seasons because of the change in precipitation. Loss of water to evaporation and growing vegetation reduces the risk of flooding.

IWBAT understand the characteristics of high-gradient and low-gradient streams through shared reading, class discussion, and written responses to questions.

Activity 3 p. U-90

IWBAT understand the effect of stream velocity on sediment loads through shared reading, class discussion, and written responses to questions. I will use vocabulary such as turbulence, sediment, and velocity.

Water Resources Unit

Activity 3 p. U-90

Think About It *big rocks - lots of velocity, force
small rocks, sand - low velocity
slope less steep - calmer, smaller rocks
what land it crosses, large water volume*

Digging Deeper

- There are many different names for different sized rocks.
- In many streams sand and silt particles consist mainly of quartz which resists dissolution and abrasion. Several other minerals may be in the sand depending on the source of the sand.
- Sediments can be carried by streams in several ways: dissolved (carried invisibly), suspended load (held up by water turbulence), bed load (saltation: bouncing, rolling, sliding). How the sediment is carried depends on the size of the sediment and the velocity of the water.
- Flowing water exerts forces on sediment resting on the streambed. A certain force is needed to move a particle from its position on the bed. This is the threshold velocity.

IWBAT understand the effect of stream velocity on sediment loads through shared reading, class discussion, and written responses to questions. I will use vocabulary such as turbulence, sediment, and velocity.

Water Resources Unit

Digging Deeper

- The sediment in streams can become rounded as they bounce along the streambed and collide with other particles. The smallest particles are picked up and carried in suspension and can "sandblast" the larger particles.
- Rocks composed of different minerals become rounded at different rates. Uniformly strong rocks break down more slowly than layered rocks. Softer minerals round more rapidly than harder minerals.
- Calcite is the only common mineral that dissolves readily in streams.
- All of the sediment particles can be reduced by abrasion or dissolution as they travel downstream. Upstream particles are much coarser than downstream particles, this is called downstream fining. More important for this process is the breaking of larger particles into smaller particles.

IWBAT understand the effect of stream velocity on sediment loads through shared reading, class discussion, and written responses to questions. I will use vocabulary such as turbulence, sediment, and velocity.

Water Resources Unit

01/31/18

Activity 4 p. U-100

IWBAT understand the parts of a river system and the effects of river systems on communities through shared reading, class discussion, and written responses to questions. I will use vocabulary such as tributary, drainage basin, and drainage divide.

Water Resources Unit

Activity 4 p. U-100

Think About It - Google a leaf image to describe

*Smaller ones connect to larger and then to the stem
they're interconnected, both contain water
one connects to a stem, the other to an ocean
Streams connect at one end, veins can connect multiple times
veins are enclosed, streams are open*

Digging Deeper

- A river system has different parts: tributary system, trunk stream, & distributary system. A tributary system is many little streams that flow into bigger streams which flow into even bigger streams. A trunk stream is the big river that the tributary system flows into. A distributary system is small channels branching off of the trunk stream near the final destination.
- All rivers flow down hill.
- A drainage basin is an area in which all the water flows to one place, usually the ocean. They can be different sizes. The largest basin in the USA is the Mississippi River with branches that come from many places.
- A drainage divide is the boundary between adjacent drainage basins. The water falling on each side of the divide will flow into a different drainage basin.

IWBAT understand the parts of a river system and the effects of river systems on communities through shared reading, class discussion, and written responses to questions. I will use vocabulary such as tributary, drainage basin, and drainage divide.

Water Resources Unit

Digging Deeper

- River systems can be used as a water source for irrigation, industrial uses, and municipal drinking water systems as well as for waste disposal, these uses are incompatible.
- Transporting heavy materials by river is cheaper. It is done often in the eastern and midwestern sections of the US. Shipping can travel internationally.
- Dams form artificial lakes (reservoirs). Hydroelectric power plants are common in the US. Water movement is converted to electrical energy.
- Dams control the flow of water. Dams disrupt the natural flow of rivers and ecosystems.
- Rivers are also used for recreation (swimming, fishing, boating, etc.).
- Erosion by water lowers the levels of mountains and gives the Earth its shape. Even in deserts where water is scarce, it is important because it shapes the landscape.

IWBAT understand the parts of a river system and the effects of river systems on communities through shared reading, class discussion, and written responses to questions. I will use vocabulary such as tributary, drainage basin, and drainage divide.

Activity 5 p. U-113

IWBAT understand river systems as a part of the earth system through shared reading, class discussion, and written responses to questions. I will use vocabulary such as reservoir, flux, and outflow.

Seré capaz de comprender los sistemas fluviales como parte del sistema terrestre a través de la lectura compartida, la discusión en clase y respuestas escritas a las preguntas. Usaré vocabulario como reservorio, flujo y flujo de salida.

Water Resources Unit

Activity 5 p. U-113

Think About It

water velocity, sediment types, water depth, how has erosion affected the shoreline, soil moisture, floodplain, types of plants/trees, locations of sediment, flood debris

Digging Deeper

- Water can exist in three physical states: solid, liquid, gas. Movement of water or energy from one reservoir to another is called flux.
- When fluxes change, so does the amount of water in the stream. This affects weathering, transportation, and deposition which in turn affect all four Earth systems.
- The flow of water between reservoirs is like filling a sink. If water enters the reservoir faster than it leaves, the reservoir can flood over the sides.
- A stream system has more reservoirs and fluxes than a sink/faucet. Reservoirs include lakes, streams, the atmosphere, biosphere, groundwater, and surface runoff. Flooding effects include increased sediment transportation, undercutting of stream banks, and damage to vegetation inside and outside the stream channel. Increased outflow from these reservoirs becomes greater inflow into streams.

IWBAT understand river systems as a part of the earth system through shared reading, class discussion, and written responses to questions. I will use vocabulary such as reservoir, flux, and outflow.

Water Resources Unit

Digging Deeper

- Warm temperatures cause an increase in evaporation. During summer months there is more vegetation to absorb water. This can cause lower groundwater levels, less sediment transport, and lower stream flows.
- Urbanization greatly affects stream processes. Pavement limits the influx of precipitation into groundwater becoming instead surface water which can cause flooding. Adding contaminants to stream water can kill fish and vegetation. Diverting water for human use reduces stream flow.
- When considering building in a location, they look for natural processes which can interfere with or prevent their project. They also evaluate how their building project will affect natural processes.

IWBAT understand river systems as a part of the earth system through shared reading, class discussion, and written responses to questions. I will use vocabulary such as reservoir, flux, and outflow.

Water Resources Unit

Unit 4: Chapter 3 (p. R-144)

Visuals (Graph/chart/table/picture)

Answer the questions

↳ Evidence

↳ Justification

XC-Rebuttals

Quality of writing (Citations)

Position - for or against

IWBAT understand what is required of us during the preparation for and execution of the chapter challenge performance task. I will do this through shared reading and class discussion. I will use vocabulary such as residential, development, and supply.

Water Resources Unit

Unit 4: Chapter 3: Activity 1 (p. R-146)

I will generate a graphical model of the transport of water between reservoirs within the water cycle. I will use vocabulary such as precipitation, transpiration, and evaporation.

Generaré un modelo gráfico del transporte de agua entre embalses dentro del ciclo del agua. Usaré vocabulario como precipitación, transpiración y evaporación.

Water Resources Unit

Unit 4: Chapter 3: Activity 1 (p. R-146)

The activity is located in your Schoology for this class,
Unit 3 Water Resources, Week 3, Ch 3 Activity 1.

La actividad está ubicada en su Schoology para esta clase,
Unidad 3 los Recursos Hídricos, Semana 3, Ca 3 Actividad 1

**Skip Part A.
Omitir parte A.**

I will generate a graphical model of the transport of water between reservoirs within the water cycle. I will use vocabulary such as precipitation, transpiration, and evaporation.

Water Resources Unit

Unit 4: Chapter 3: Activity 1

Think About It

10" of snow, light snow
Soaked into the ground
under the ground
evaporated
ran into the street
plants drink it

Digging Deeper

- Water is everywhere in the form of a liquid, solid, or gas.
- Water resides in many different kinds of places. Some water is buried with sediments and is locked in the Earth for a geologically long time. Water moves from place to place within a closed system (nothing enters or leaves the system). These movements are called the water cycle.
- Evaporation and precipitation are the major processes in the water cycle. The balance between evaporation & precipitation varies between places and over time. There is more evaporation than precip. over the oceans and more precip. than evaporation over the continents.
- The oceans cover about 3/4 of the Earth. If the air is cold then the water vapor condenses into droplets. Near the ground this makes fog.
- When it precipitates, some water evaporates while some runs downhill into lakes and rivers.

Liquid
Solid
Vapor

I will generate a graphical model of the transport of water between reservoirs within the water cycle. I will use vocabulary such as precipitation, transpiration, and evaporation.

Water Resources Unit

Digging Deeper

- Water that doesn't evaporate or run off will soak into the soil (into open pore spaces in the soil and rocks). Water reaches a zone where all the pores are filled with water. This is groundwater.
- Plants absorb some soil moisture and release it to the atmosphere via transpiration.
- The oceans are salty because surface runoff carries sediments to the oceans.
- While the amount of water in the system is constant, the amount of water in any one reservoir varies over time. For example, there is more groundwater in the spring than in the summer.

I will generate a graphical model of the transport of water between reservoirs within the water cycle. I will use vocabulary such as precipitation, transpiration, and evaporation.

Water Resources Unit

Unit 4: Chapter 3: Activity 2 (p. R-156)

IWBAT discuss the sources of domestic water through shared reading, class discussion, and written responses to questions. I will use vocabulary such as aquifer, aqueduct, and permeability.

Seré capaz de discutir las fuentes de agua doméstica a través de la lectura compartida, discusión en clase y respuestas escritas a las preguntas. Utilizaré vocabulario como acuífero, acueducto y permeabilidad.

Water Resources Unit

Unit 4: Chapter 3: Activity 2

Think About It (p. R-156)

Can't be guaranteed 100%, use multiple water sources,
Store water for future use,
Groundwater - stored underground, doesn't rely on current
precip., Surface water evaporates + soaks into the
ground

Investigate - Part C (R-161)

1a, c-f)

Parker: 123 gal/person/day

Denver: 83-120 gal/person/day

IWBAT discuss the sources of domestic water through shared reading, class discussion, and written responses to questions. I will use vocabulary such as aquifer, aqueduct, and permeability.

Water Resources Unit

Unit 4: Chapter 3: Activity 2

Digging Deeper - p. R162

- There are six ways to increase the supply of water: aquifer, rivers/lakes nearby, dams for reservoirs, water conservation, bring from distant areas via aqueducts, convert salt water to fresh water. These choices affect other communities by reducing available water for downstream towns.
- Water flow in rivers varies from season to season so it is not a reliable source of water. Dams can be built to form reservoirs and control floods, but dams displace wildlife, disrupt the natural migration of fish, and flood crop lands. Eventually, dams fill up with sediment from the rivers leaving less room for water.
- An aquifer is a body of rock with enough porosity and permeability to provide an adequate supply of water via wells. The best aquifers consist of sand and gravel, but fractured bedrock can work, too.
- Rock pores are sometimes filled with air. The top of the zone where the pores are filled with water is the water table. The water table can be located at the surface near rivers, lakes, and wetlands, but they can also be well below the surface.
- Groundwater moves slowly because it has to move through small pores; smaller pores result in slower flows. Speeds as low as 1m/yr are common.
- In rural areas wells supply homes with groundwater from the aquifer.
- Unconfined aquifers have a free connection to the surface and are recharged by local precipitation.

IWBAT discuss the sources of domestic water through shared reading, class discussion, and written responses to questions. I will use vocabulary such as aquifer, aqueduct, and permeability.

Water Resources Unit

Unit 4: Chapter 3: Activity 2

Digging Deeper

- Confined aquifers are isolated from the surface by an impermeable layer (which may include clay) called an aquiclude. They may recharge from many kilometers away.
- In areas where groundwater has been used for a long time the land has sunk down, sometimes by several meters.
- Where water use exceeds local supplies, water must be brought in from where it is abundant, possibly by man-made rivers called canals and aqueducts. The water flows downhill, but in some places it must be pumped uphill.
- Desalination is converting salt water to fresh water, but is too expensive to use widely.
- Conservation is a way to stretch water supplies. If people use less water, there is more water for future use.

IWBAT discuss the sources of domestic water through shared reading, class discussion, and written responses to questions. I will use vocabulary such as aquifer, aqueduct, and permeability.

Water Resources Unit

Unit 4: Chapter 3: Activity 3

p. R-169

IWBAT explain the difference between consumptive and nonconsumptive use. I will do this through shared reading, class discussion, and written responses to questions. I will use vocabulary such as conservation and domestic.

Seré capaz de explicar la diferencia entre el uso consuntivo y no consumo. Lo haré a través de la lectura compartida, discusión en clase y respuestas escritas a las preguntas. Voy a utilizar el vocabulario, como la conservación y doméstica.

Water Resources Unit

Unit 4: Chapter 3: Activity 3

Think About It p. R-169

Schoology discussion

Investigate - Part B

Denver: 1, 2, 3, 4, 5c, 5e

IWBAT explain the difference between consumptive and nonconsumptive use. I will do this through shared reading, class discussion, and written responses to questions. I will use vocabulary such as conservation and domestic.

Water Resources Unit

Unit 4: Chapter 3: Activity 3

Digging Deeper - p. R173

- The largest uses of fresh water (78%) are irrigation and thermoelectric use. Domestic use is only 7.7% of fresh water use.
- Most of the water used in homes is nonconsumptive (remains liquid) and returns to rivers, lakes, oceans, or soaks into the ground.
- In many places, population is growing faster than the amount of water that can be supplied for them. Water conservation programs become more important as time goes on. There are ways to save water at home and in public uses.
- Drip irrigation is a way to conserve water as compared to traditional ways. Xeriscaping is a way to save water in dry climates by planting plants that are adapted to the environment.

IWBAT explain the difference between consumptive and nonconsumptive use. I will do this through shared reading, class discussion, and written responses to questions. I will use vocabulary such as conservation and domestic.

Water Resources Unit

Unit 4: Chapter 3: Activity 4

p. R-177

IWBAT construct a water budget of my community from data, explain the influence of local climate on the water budget, and identify the times of year when the supply and demand of water are highest and lowest. I will do this via group discussion and constructing a graphical model using vocabulary such as budget, supply, and demand.

Podré construir un presupuesto de agua de mi comunidad a partir de datos, explicar la influencia del clima local en el presupuesto de agua e identificar las épocas del año en que la oferta y la demanda de agua son más altas y más bajas. modelo utilizando vocabulario como presupuesto, oferta y demanda.

Water Resources Unit

Unit 4: Chapter 3: Activity 4

Think About It p. R-177

Participate in the Schoology discussion.

Investigate - R178

30 min

Done in partners/small groups

Part A: Online research & graph creation

Part B: Construct a flow chart using data from the book

IWBAT construct a water budget of my community from data, explain the influence of local climate on the water budget, and identify the times of year when the supply and demand of water are highest and lowest.

Water Resources Unit

Unit 4: Chapter 3: Activity 4

p. R-177

Part A:

Part B:

IWBAT construct a water budget of my community from data, explain the influence of local climate on the water budget, and identify the times of year when the supply and demand of water are highest and lowest.

Water Resources Unit

Unit 4: Chapter 3: Activity 4

Digging Deeper - R180

- Water budget is useful because it organizes your thinking about water use and help to identify aspects of water use that need the attention.
- Rainfall varies from considerably from season to season, an advantage of groundwater using is it not as vulnerable to short-term changes in precipitation as surface water.
- The volume of water that flows past a point of a river is called the discharge, larger river systems have larger discharge. Discharge varies between time of droughts and time of floods.
- Most of the cities and towns that use the water supply only have a small amount of the river discharge.
- Not all of the water in rivers comes from surface runoff. The groundwater and the river feed each other depending on the level of river flow at the time. During times of drought the percentage of groundwater that supplies the river is much greater and during times of flood the percentage is smaller.
- The upper limit of saturation is called the water table. Above the water table the pores are filled with air and below the water table the pores are filled with water.

IWBAT construct a water budget of my community from data, explain the influence of local climate on the water budget, and identify the times of year when the supply and demand of water are highest and lowest.

Water Resources Unit

Unit 4: Chapter 3: Activity 4

Digging Deeper

- The aquifer of the water table is dependant on rainfall, so if there is not consistent rainfall to fill up the water table, users of groundwater will see a shortage of water because the aquifer of a water table recharges by rainfall.
- Before the wells are drilled into an aquifer the water system is in a condition of long-term balance. The pumping of groundwater upsets the balance of the aquifer and creates a cone of depression when the wells are drilled.
- When groundwater is pumped from a field of wells there are a couple things that can happen. One thing is that the water coming in compensates for the level of water going out, but the water table is significantly lower or the ground water coming in is not enough to keep up with the water that is going out through the wells.

IWBAT construct a water budget of my community from data, explain the influence of local climate on the water budget, and identify the times of year when the supply and demand of water are highest and lowest.

Water Resources Unit

Unit 4: Chapter 3: Activity 4

Digging Deeper

IWBAT construct a water budget of my community from data, explain the influence of local climate on the water budget, and identify the times of year when the supply and demand of water are highest and lowest.

Water Resources Unit

Unit 4: Chapter 3: Activity 5

IWBAT identify and describe ways that human activity affects surface water and ground water. I will do this through group discussion, watching relevant videos, filling out a concept map, and write a short essay using vocabulary such as pollution, resources, and predict.

Seré capaz de identificar y describir las formas en que la actividad humana afecta a las aguas superficiales y subterráneas. Haré esto a través de la discusión en grupo, viendo videos relevantes, rellinando un mapa conceptual y escribiendo un ensayo corto usando vocabulario como contaminación, recursos y predicción.

Water Resources Unit
Unit 4: Chapter 3: Activity 5
Think About It - p. R184

Unit 4: Chapter 3: Activity 5

Think About It - p. R184

Investigate - See your Schoology class

Water Resources Unit

Week 6

Activity 5 folder

Activity 5: Water Pollution

Investigar - Ver tu clase de Estudios

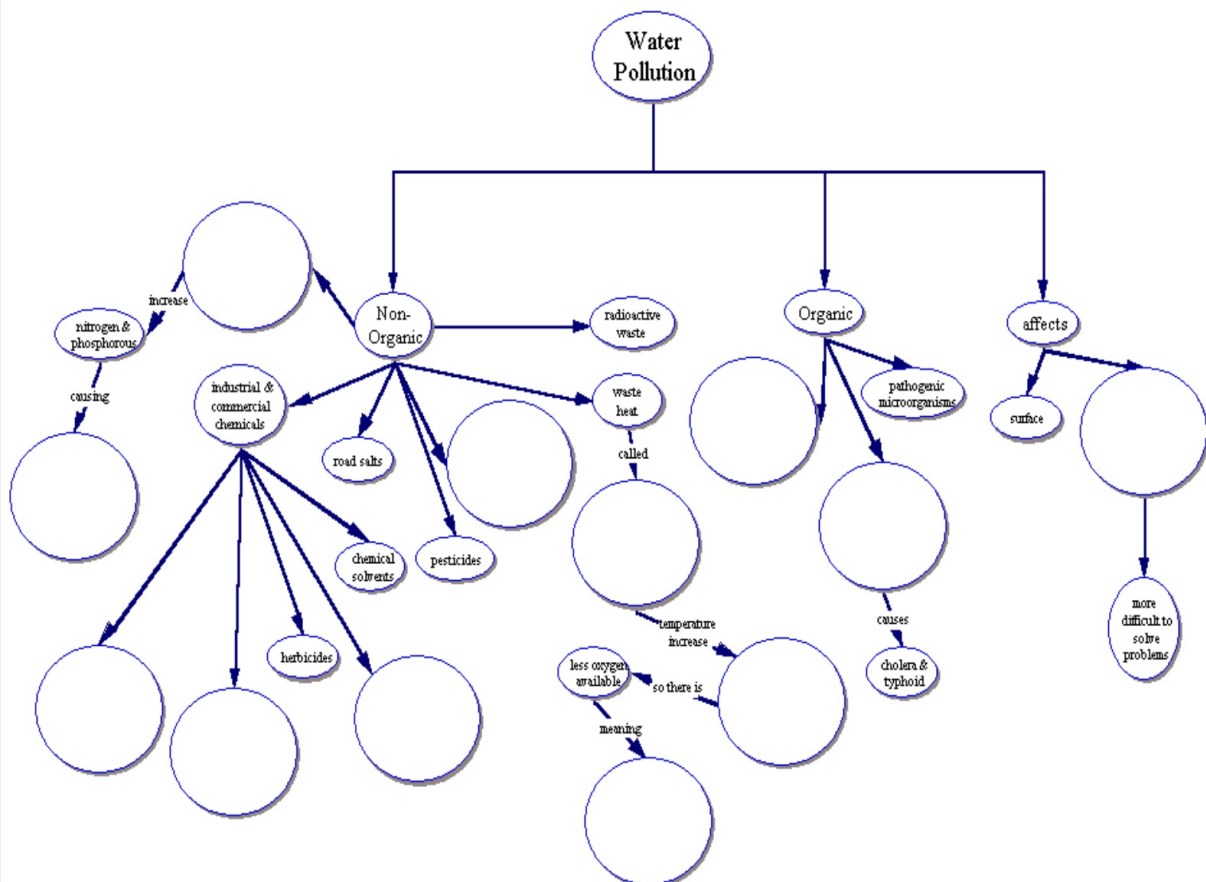
Unidad de Recursos Hídricos

Semana 6

Actividad 5 carpeta

Actividad 5: Contaminación del agua

IWBAT identify and describe ways that human activity affects surface water and ground water. I will do this through group discussion, watching relevant videos, filling out a concept map, and write a short essay using vocabulary such as pollution, resources, and predict.



Water Resources Unit

Unit 4: Chapter 3: Activity 5

Digging Deeper / Profundizando en el tema - R189

- Scientists make models to help make predictions. Field measurements verify the model's predictions.
- Polluted groundwater may contain fewer kinds of pollutants than surface water, but they might be in higher concentrations. It's more difficult to solve groundwater pollution problems than surface water problems. In part because groundwater flows much more slowly than surface water.
- Many illnesses like cholera and typhoid are caused by contact with sewage. Coliform bacteria (mamalian intestinal bacteria) are generally not harmful, but their presence is used as an indicator of sewage contamination. About 3/4 of US homes have municipal sewage systems. The rest discharge into septic systems.
- Nitrogen is good for plants, but too much causes problems. The excess washes into surface water where it can cause algae blooms that steal the oxygen from the water. Most of this excess come from croplands, lawns, golf courses, and gardens.
- Untreated/inadequately treated sewage can end up in groundwater supplies. Infants can be harmed by water with high nitrate levels because it reduces the oxygen carried by the blood, leading to "blue baby" syndrome.
- Soluble phosphorous causes algal blooms like nitrogen.
- Toxins find their way into water supplies from everyday uses, illegal dumping, or being stored in decayig drums.

IWBAT identify and describe ways that human activity affects surface water and ground water. I will do this through group discussion, watching relevant videos, filling out a concept map, and write a short essay using vocabulary such as pollution, resources, and predict.

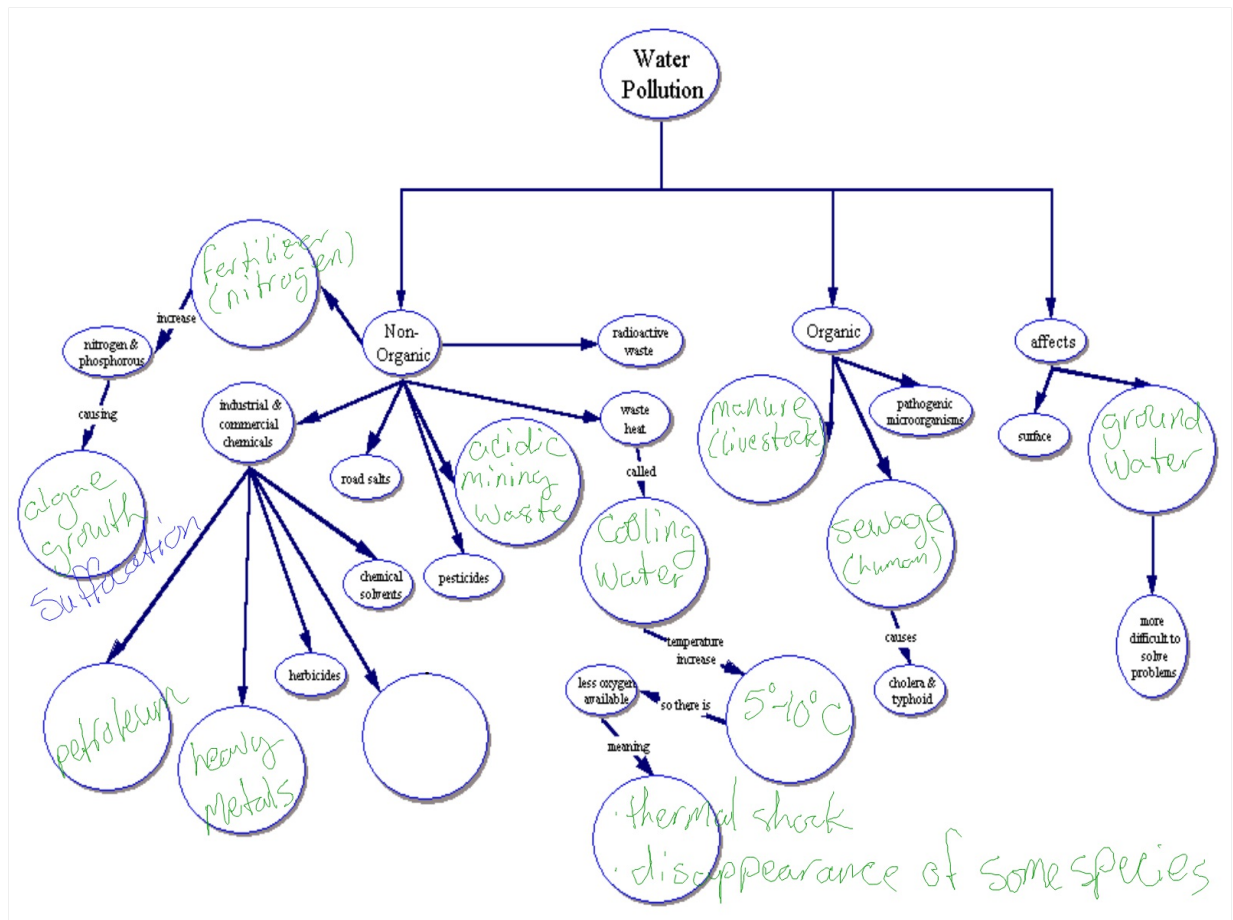
Water Resources Unit

Unit 4: Chapter 3: Activity 5

Digging Deeper / Profundizando en el tema - R189

- Water used to generate electricity is released into streams at higher temperatures and can kill some species via thermal shock. This water also holds less oxygen than cooler water.

IWBAT identify and describe ways that human activity affects surface water and ground water. I will do this through group discussion, watching relevant videos, filling out a concept map, and write a short essay using vocabulary such as pollution, resources, and predict.



Water Resources Unit

Unit 4: Chapter 3: Activity 5

Compose an essay explaining why water resources are important in Colorado. Summarize the water use in Colorado and predict what could happen in the future if we are not careful with our resources. Be prepared to share your answer with the class.

Redacte un ensayo explicando por qué los recursos hídricos son importantes en Colorado. Resumir el uso del agua en Colorado y predecir lo que podría suceder en el futuro si no tenemos cuidado con nuestros recursos. Esté preparado para compartir su respuesta con la clase.

IWBAT identify and describe ways that human activity affects surface water and ground water. I will do this through group discussion, watching relevant videos, filling out a concept map, and write a short essay using vocabulary such as pollution, resources, and predict.

Water Resources Unit

Unit 4: Chapter 3: Activity 6

I will research and describe the water treatment process used by my community and understand the stages of the filtration of water for public use. I will do this via online research, shared reading, and responding to questions using vocabulary such as purification, treatment, and pollution.

Voy a investigar y describir el proceso de tratamiento de agua utilizado por mi comunidad y comprender las etapas de la filtración de agua para uso público. Voy a hacer esto a través de la investigación en línea, la lectura compartida, y responder a las preguntas utilizando vocabulario como la purificación, el tratamiento y la contaminación.

Water Resources Unit

Unit 4: Chapter 3: Activity 6

Think About It / Piensalo - p. R196

Investigate Part C - p. R198

The materials you need are in the Activity 6 folder inside the Week 7 folder.

Investigar la Parte C - p. R198

Los materiales que necesita se encuentran en la carpeta Actividad 6 dentro de la carpeta Semana 7.

I will research and describe the water treatment process used by my community and understand the stages of the filtration of water for public use. I will do this via online research, shared reading, and responding to questions using vocabulary such as purification, treatment, and pollution.

Water Resources Unit

Unit 4: Chapter 3: Activity 6

Digging Deeper / Profundizando en el tema - R199

- Evaporation and condensation separate water from substances dissolved in it. Sand and gravel filter out suspended materials which make the water cloudy. Rainwater and groundwater that are purified by bacteria and filtered by sediments supplies clean drinking water. Communities rely on municipal water treatment because demand is greater than supply.
- Treatment of wastewater from municipal sewage systems involves a series of steps: screening, flocculation, filtering, and disinfecting. All uses of water in the home add pollutants to the water. Wastewater in septic systems is not treated and adds to groundwater pollution.
- Screens remove larger pieces of debris. Other processes coagulate and settle out smaller particles. Sludge is sent to a new container where microorganisms digest it.
- Filtration helps remove minute particles and odor. Gravel, sand, and activated carbon and/or ion-exchange can be used to remove inorganic components (e.g. uranium). Aeration speeds up decomposition of organic matter.
- Water is disinfected with chlorine and ozone. Sometimes the disinfecting process produces byproducts which may have adverse health effects with long-term exposure. Chlorine helps protect against contamination in the distribution system.

I will research and describe the water treatment process used by my community and understand the stages of the filtration of water for public use. I will do this via online research, shared reading, and responding to questions using vocabulary such as purification, treatment, and pollution.

Water Resources Unit

Unit 4: Chapter 3: Activity 6

Digging Deeper / Profundizando en el tema - R199

- Tertiary treatment uses flocculation, disinfection, and additives to improve the quality of the drinking water. People don't like to know that they are drinking treated sewage.
- Average water costs ~\$2/1000 gallons, 15% for treatment, the rest for maintenance, etc.
- Water hardness reflects the concentration of dissolved solids in water, mainly Ca & Mg. Groundwater tends to be harder than surface water. Hardwater is more common where there is limestone. Some hardness can be good because Ca & Mg are essential nutrients. Hardness protects against lead from the pipes getting in the water. Hard water can leave deposits in water heaters and on faucets. Water softeners replace Ca & Mg with Na ions, which can cause high sodium levels in water which is bad for people with high blood pressure.

I will research and describe the water treatment process used by my community and understand the stages of the filtration of water for public use. I will do this via online research, shared reading, and responding to questions using vocabulary such as purification, treatment, and pollution.

Water Resources Unit

Unit 4: Chapter 3: Activity 6

Digging Deeper / Profundizando en el tema - R199

I will research and describe the water treatment process used by my community and understand the stages of the filtration of water for public use. I will do this via online research, shared reading, and responding to questions using vocabulary such as purification, treatment, and pollution.

Water Resources Unit

Unit 4: Chapter 3: Activity 6

Digging Deeper / Profundizando en el tema - R199

I will research and describe the water treatment process used by my community and understand the stages of the filtration of water for public use. I will do this via online research, shared reading, and responding to questions using vocabulary such as purification, treatment, and pollution.

Water Resources Unit

Due Monday, 10/23 noon

Debido lunes, 23/10 al mediodia

Day 1 Pro & Day 2 Con

IWBAT construct a three paragraph argumentative essay. I will do this through researching online the arguments for and against using dams on rivers, take relevant notes, and collaboratively document my sources. I will adhere to correct grammar and usage, transitions, citations, and use vocabulary such as dam, river, reservoir, and environment.

Directions in Schoology / Direcciones en Schoology

Dia 1 Favorable & Day 2 en Contra

Seré capaz de construye un ensayo argumentativo de tres párrafos. Haré esto a través de la investigación en línea de los argumentos a favor y en contra de usar represas en los ríos, tomar notas relevantes y documentar en colaboración mis fuentes. Me adheriré a la gramática correcta y al uso, transiciones, citas y uso del vocabulario como presa, río, embalse y ambiente.

Water Resources Unit

Due Monday, 10/23 noon

Debido lunes, 23/10 al mediodia

Days 3 & 4 Construct My Essay

IWBAT construct a three paragraph argumentative essay. I will do this through researching online the arguments for and against using dams on rivers, take relevant notes, and collaboratively document my sources. I will adhere to correct grammar and usage, transitions, citations, and use vocabulary such as dam, river, reservoir, and environment.

Directions in Schoology / Direcciones en Schoology

Dias 3 & 4 Construye Mi Ensayo

Seré capaz de construye un ensayo argumentativo de tres párrafos. Haré esto a través de la investigación en línea de los argumentos a favor y en contra de usar represas en los ríos, tomar notas relevantes y documentar en colaboración mis fuentes. Me adheriré a la gramática correcta y al uso, transiciones, citas y uso del vocabulario como presa, río, embalse y ambiente.